most serious omission from the book is a synthetic chapter at the end. This would have increased the value of the book immensely. If we are to make progress in dealing with issues such as the interface between ecology and land development, we as scientists need to make sure that we ourselves interface effectively. Only by communicating clearly and concisely about these issues with the people who are making and regulating development decisions will we have any hope of changing the way things happen. Most developers and regulators will not read the papers in this book, but they are the ones that we most need to engage with. Maybe if there is to be a third conference in this series, that is the issue on which it should concentrate.

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Synthesis of the North American Flora. Version 1.0. By John T. Kartesz and Christopher A. Meacham. 1999. North Carolina Botanical Garden, University of North Carolina at Chapel Hill. In cooperation with The Nature Conservancy, NRCS, USDA, USFWS, USDI. $495.00. ISBN 1-889065-05-6.

Minimums requirements, a Pentium 90 MHz class processor, 32 MB RAM, 25 MB free hard drive space, SVGA display (minimum resolution, 800 by 600, 1280 by 1024 recommended) with 16 colors, Microsoft Windows 3.1, 95, 98, NT, or 2000 operating system, CD-ROM drive for installation.

This is a most impressive work. An update of, and an expansion on Kartesz 1994, A Synonymized Checklist of the Vascular Flora of the United States, Canada, and Greenland, Second edition, Volume 1, Checklist and 2, Thesaurus, Timber press, Portland. Unlike its predecessor, near-instant answers, comparisons, and analyses can be obtained to a multitude of questions within and beyond the scope of the printed work. It contains a comprehensive database with a high level of accuracy on the taxonomy, nomenclature, phytogeography, and biological attributes of the North American vascular flora

(by Kartesz) combined with highly functional software for accessing the database (by Meacham). Thus, a slick and versatile product. The cover in the jewel case is a six page insert. Included is "Nomenclatural Innovations" with 41 new combination (see International Code of Botanical Nomenclature (Saint Louis Code), 2000; Recommendation 30A.1. Ex. 1). Installation of the product is simple. The "Overview of Basic Functions" in the help menu can be printed for immediate reference or accessed as needed.

As the title indicates, this work covers North America north of Mexico. Treated are all continental states and the District of Columbia for the U.S.A., all provinces of Canada with Newfoundland displayed separate from Labrador and the Northwest Territories by administrative district (Keewatin, Mackenzie, and Franklin), the islands of St. Pierre and Miquelon, and Greenland. Furthermore, Puerto Rico, the U.S. Virgin Islands, and Hawaii are also included.

The primary screen contains three nomenclature windows on the left with lists by family, genus, infrageneric name (specific, subspecific, varietal epithets), respectively. A box above each list allows one to type the first few letters of a name and then click on it, or one can scroll and click on a name (options, with common or contrived names, authors, hybrids, synonyms, and either in checklist or thesaurus format). Or the family window can be circumvented by selecting the "All Genera" option. For the area covered, 28,033 taxa are recognized. Nearly 72,000 scientific names and synonyms and nearly 35,000 distribution maps for taxa at all ranks are included. When a taxon at any level is highlighted, its distribution appears in bright green (yellow for states where rare, pink if considered noxious, etc.) on the map in the Geography window, upper right on screen. When a unique taxon is selected, passing the cursor over a political unit or "region" within its range causes a "flyover window" to appear with indication of bibliographic reference, source of voucher, etc., on which a record is based. By highlighting a political unit under "Query," the contents of the three nomenclature windows are adjusted so as to include only the taxa documented for it. A breakdown of the included taxa may be found under "Summary" in the Attributes window, lower right on the screen. As an example, Texas with 6022 unique taxa; 199 families, 1390 genera, 5320 species, 395 subspecies, 1254 varieties, 77 hybrids for a total of 8635 taxa at all hierarchical levels.

Also in the geography window, operation buttons allow the **set union** (+) of two or more regions (e.g., union of Texas + New Mexico + Arizona) to give all taxa found therein; **set intersection** (*) for a list of taxa found, say in Colorado **as well as** Wyoming (intersection of Colorado * Wyoming); and **set subtraction** (or "**not**," −) is used to calculate the set of taxa unique to one political unit

when compared to one or more other such units (e.g., taxa found in Texas but not in New Mexico or Arizona). Also, "Composite Regions" may be used to select groups of states or provinces such as the Northeast states, the Rockies, or the Appalachians.

Also in the Attributes window, is a standard set of character states for the plant highlighted. For *Poa palustris* L., the following features appear: flowering plant, monocot, grass, perennial, native, alpine to subalpine, wetland, herbaceous, economic importance, major range plant, and occurrence (e.g., national parks and forests and all political units where documented). It is also possible to use set union, set intersect, and set subtraction in combination with a region and one or more attribute characters (e.g., intersection for California*woody*native*monocots results in 20 unique taxa). If you wish to save the results, say a search of all unique taxa with synonyms and authors by family for one or a group of states, they can readily be moved into Microsoft Word 95 or 98, Corel WordPerfect Suite 8, etc. All of the above and more. A 1 MB demonstration version for Windows may be downloaded at <http://www.bonap.org/>.

I must confess, I have had a review copy of this work on my computer for nearly a year. I have used it numerous times almost daily while working on a checklist of the vascular plants of Colorado with synonymy and on a list of exotic plants for Wyoming. Now, finally, a review.

Future plants for the Synthesis include county-level occurrence data for the U.S., illustrations and colored photos of all taxa available, and a random access key to all North American species. With Kartesz's productivity and expertise and Meacham's "magic," I anxiously await the appearance of future editions, likely on DVD.

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